April 17, 2003

TO: Robin Hylton, Art Unit 3727
CP2, Room 9-E-12

FROM: Jeanne Horrigan
ASRC Searcher in EIC3700

SUBJECT: Search Results for Serial 09/934082

Attached are the search results for the elastically deformable closure, including results of inventor and prior art searches in foreign and international patent databases and prior art searches in packaging, product, aerospace, and general sci-tech non-patent literature databases. I also searched the Web using the Google search engine, but I found nothing relevant through Google.

The results are organized into three sets:

- Results of inventor search in foreign/international patent databases;
- Results of prior art search in foreign/international patent databases; and
- Results of non-patent literature search.

Results appear after the database names and search strategy used for those results. I tagged items that I thought seemed most relevant, but **I suggest that you review all of the results, especially because I have difficulty visualizing the written descriptions in the citations.**

Also attached is a search feedback form. Completion of the form is voluntary. Your completing this form would help us improve our search services.

I hope the attached information is useful. Please feel free to contact me (phone 305-5934 or email jeanne.horrigan@uspto.gov) if you have any questions or need additional searching on this application.

8:30 - 12:25

Access DB# 91430

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: ROBIN HYLTON Examiner #: 72454 Date: 4/14/03
Art Unit: 3727 Phone Number 30 8 1208 Serial Number: 09/934082
Mail Box and Bldg/Room Location: CP2 9E12 Results Format Preferred (circle): PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: _____

Inventors (please provide full names): _____

_____

Earliest Priority Filing Date: 8/22/00

For Sequence Searches Only *Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

- closure on end of container
- has elastic bands that stretch to open; contract to close (see drawings)

- goal is to use in space (low gravity environment)
  ↳ not nec. for search, but background

("elastically deformable")

****

STAFF USE ONLY

Searcher: JEANNE HORRIGAN
Searcher Phone #: 305-5934
Searcher Location: CP2-2C18
Date Searcher Picked Up: 4/17
Date Completed: 4/17
Searcher Prep & Review Time: 87
Clerical Prep Time: _____
Online Time: 108

Type of Search

NA Sequence (#) _____
AA Sequence (#) _____
Structure (#) _____
Bibliographic ✓
Litigation _____
Fulltext ✓
Patent Family _____
Other _____

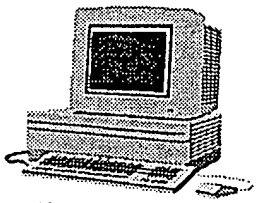
Vendors and cost where applicable

STN _____
Dialog ✓ _____
Questel/Orbit _____
Dr.Link _____
Lexis/Nexis _____
Sequence Systems _____
WWW/Internet ✓ _____
Other (specify) _____

PTO-1590 (8-01)

EIC3700/2900

Search Results Feedback Form (Optional)



Scientific & Technical Information Center

The search results generated for your recent request are attached. If you have any questions or comments (compliments or complaints) about the scope or the results of the search, please *contact the EIC searcher who performed your search (or either of us):*

John Sims, Team Leader, 308-4836, CP2-2C08
or Jeanne Horrigan, Searcher, 305-5934

Voluntary Results Feedback Form

- *I am an examiner in Workgroup:* ☐ *Example:* 3740

- *Relevant prior art **found**, search results used as follows:*
  - ☐ 102 rejection
  - ☐ 103 rejection
  - ☐ Cited as being of interest.
  - ☐ Helped examiner better understand the invention.
  - ☐ Helped examiner better understand the state of the art in their technology.

  Types of relevant prior art found:
  - ☐ Foreign Patent(s)
  - ☐ Non-Patent Literature
    (journal articles, conference proceedings, new product announcements etc.)

- *Relevant prior art **not found**:*
  - ☐ Results verified the lack of relevant prior art (helped determine patentability).
  - ☐ Search results were not useful in determining patentability or understanding the invention.

Other Comments:

Drop off completed forms in the inbox, EIC 3700/2900, CP2-2C08, or in CPK1-5A02. **Thanks!**

File 350:Derwent WPIX 1963-2003/UD,UM &UP=200325
File 347:JAPIO Oct 1976-2002/Dec(Updated 030402)
File 371:French Patents 1961-2002/BOPI 200209

Set	Items	Description
S1	2	AU='COLFORD N A T':AU='COLFORD NICHOLAS ALAN TIMOTHY'
S2	11	AU='DEJONG F'
S3	1	AU='DEJONG F F'
S4	**1**	**S1 AND S3**
S5	0	S1 AND S2
S6	**12**	**S1:S3 NOT S4 [1 duplicate; 11 not relevant]**

4/17/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

014439298 **Image available**
WPI Acc No: 2002-260001/200231
Container for use in conditions of zero gravity has end cover with elastic opening to prevent objects inside container escaping
Patent Assignee: AGENCE SPATIALE EURO (SPAT); COLFORD N A T (COLF-I); DEJONG F F (DEJO-I)
Inventor: **COLFORD N A T** ; DE JONG F F; JONG DE FRITS F; **DEJONG F F**
Number of Countries: 027 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 1184296	A1	20020306	EP 2001402015	A	20010726	200231	B
FR 2813285	A1	20020301	FR 200010792	A	20000822	200231	
US 20020047012	A1	20020425	US 2001934082	A	20010822	200233	

Priority Applications (No Type Date): FR 200010792 A 20000822
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 1184296	A1	F	12	B65D-051/00	
	Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR				
FR 2813285	A1			B65D-047/20	
US 20020047012	A1			B65D-051/00	

Abstract (Basic): EP 1184296 A1

NOVELTY - A container (1), designed for use by astronauts in zero gravity conditions, has at least one end covered by a closure (10) which is deformable elastically in the plane of its surface to allow an object (100) inside the container to be handled or retrieved. The closure has a rigid peripheral supporting structure (50) connected by interlaced elastic elements to a closing member (60) in the form of a supple fabric sleeve.

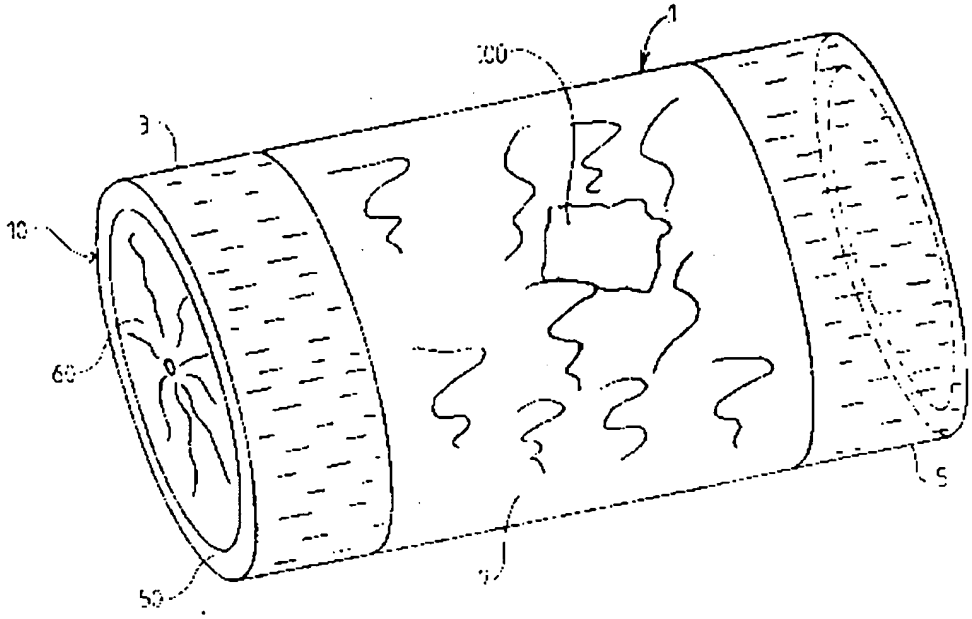
USE - Container, including pocket or cupboard, for use in zero gravity conditions.

ADVANTAGE - The elastic closure prevents objects escaping and floating off when being handled or retrieved.

DESCRIPTION OF DRAWING(S) - The drawing shows a perspective view of the container.

Container (1)
Closure (10)
Supporting structure (50)
Closing member (60)
pp; 12 DwgNo 1/7

C:\Program Files\Dialog\DialogLink\Graphics\17.bmp



Derwent Class: Q33
International Patent Class (Main): B65D-047/20; B65D-051/00
International Patent Class (Additional): B65D-047/00; B65D-053/00

File 348:EUROPEAN PATENTS 1978-2003/Apr W01
File 349:PCT FULLTEXT 1979-2002/UB=20030410,UT=20030403

Set	Items	Description
S1	**1**	**AU='COLFORD NICHOLAS ALAN TIMOTHY'**
S2	3	AU='DE JONG FRITS' OR AU='DE JONG FRITS FREDERIK'
S3	**2**	**S2 NOT S1 [not relevant]**

1/3,AB/1 (Item 1 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

duplicate of 4/17/1, page 1
01400470
Container with at least one closing device
Behalter mit zumindest einem Verschluss
Conteneur muni d'au moins un dispositif d'obturation
PATENT ASSIGNEE:
AGENCE SPATIALE EUROPEENNE, (418950), 8-10, rue Mario Nikis, F-75738 Paris Cedex 15, (FR), (Applicant designated States: all)
INVENTOR:
Colford, Nicholas Alan Timothy , Via Pietro Cossa, 19, 10142 Turin, (IT)
De Jong, Frits Frederik, Am Scherenstueck 24, 53757 Sankt Augustin, (DE
LEGAL REPRESENTATIVE:
Jacquard, Philippe Jean-Luc et al (51564), CABINET ORES, 6, Avenue de Messine, 75008 Paris, (FR)
PATENT (CC, No, Kind, Date): EP 1184296 A1 020306 (Basic)
APPLICATION (CC, No, Date): EP 2001402015 010726;
PRIORITY (CC, No, Date): FR 0010792 000822
DESIGNATED STATES: DE; ES; GB; IT
EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI
INTERNATIONAL PATENT CLASS: B65D-051/00; B65D-047/00
ABSTRACT EP 1184296 A1 (Translated)

Container for use in conditions of zero gravity has end cover with elastic opening to prevent objects inside container escaping

A container (1), designed for use by astronauts in zero gravity conditions, has at least one end covered by a closure (10) which is deformable elastically in the plane of its surface to allow an object (100) inside the container to be handled or retrieved. The closure has a rigid peripheral supporting structure (50) connected by interlaced elastic elements to a closing member (60) in the form of a supple fabric sleeve.

TRANSLATED ABSTRACT WORD COUNT: 92
NOTE: Figure number on first page: 1
LANGUAGE (Publication,Procedural,Application): French; French; French
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(French)	200210	618
SPEC A	(French)	200210	2422
Total word count - document A			3040
Total word count - document B			0
Total word count - documents A + B			3040

```
File   6:NTIS 1964-2003/Apr W2
File   8:Ei Compendex(R) 1970-2003/Apr W1
File  34:SciSearch(R) Cited Ref Sci 1990-2003/Apr W2
File  35:Dissertation Abs Online 1861-2003/Mar
File  65:Inside Conferences 1993-2003/Apr W2
File  94:JICST-EPlus 1985-2003/Apr W2
File  99:Wilson Appl. Sci & Tech Abs 1983-2003/Mar
File 144:Pascal 1973-2003/Apr W1
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
File 583:Gale Group Globalbase(TM) 1986-2002/Dec 13
File  51:Food Sci.&Tech.Abs 1969-2003/Apr W1
File  53:FOODLINE(R): Food Science & Technology 1972-2003/Apr 16
File 248:PIRA 1975-2003/Apr W2
File 252:Packaging Sci&Tech 1982-1997/Oct
File 323:RAPRA Rubber & Plastics 1972-2003/Apr
Set     Items   Description
S1     999770   CLOSURE? ? OR COVER????
S2    4899591   CONTAINER? ? OR CAN OR CANS
S3     605454   ELASTIC?
S4     924474   BAND? ? OR STRIP OR STRIPS
S5    1347157   CONTRACT??? OR CONSTRICT???? OR DEFORM?
S6    1207650   OPENING? ? OR END? ?
S7      46149   (S1 OR S6) (5N)S2
S8        718   S3(5N)S4(10N)S5
S9          4   S7 AND S8
S10         2   RD (unique items)[not relevant]
S11       324   (S1 OR S6) AND S3(S)S4 AND S5
S12        63   S8 AND (S1 OR S6)
S13    221673   S1/DE OR S6/DE
S14         6   S12 AND S13
S15         5   RD (unique items)[not relevant]
S16         0   S15/2001:2003
S17         9   S1(5N)S2 AND S3()S4
S18         9   S17 NOT (S9 OR S14)
S19         5   RD (unique items)
S20         1   S19/2001:2003
S21         4   S19 NOT S20
S22     36247   S3(2N)S4:S5
S23    174812   S2/DE
S24     30921   (S1 OR S6)(3N)S2
S25        14   S22 AND S23 AND S24
S26        12   S25 NOT (S9 OR S14 OR S19)
S27        10   RD (unique items)
S28         1   S27/2001:2003
S29         9   S27 NOT S28
S30         9   Sort S29/ALL/PY,D

21/9/1     (Item 1 from file: 51)
DIALOG(R)File  51:Food Sci.&Tech.Abs
(c) 2003 FSTA IFIS Publishing. All rts. reserv.
00649816   92-11-f0013   SUBFILE: FSTA
  Beverage cup lid.
  Whitley, C. D.
  PATENT CO.: United States Patent  1992
  PATENT NO.: US 5 102 002
  NOTE:  US 641783 (910116) (Whitley, Grand Rapids, MI 49507, USA)
```

DOCUMENT TYPE: Patent
LANGUAGE: English
A reuseable lid for a beverage cup is described, which includes a round, flat **cover** plate, which **can** be pushed aside with a finger and is held in place by a rubber torsion rod attached perpendicularly to the plate. This rod is attached at its lower end to a suction pad, which holds to the side of the cup (a velcro band or **elastic band** may be used instead of the suction pad, or the rod may be permanently attached to the cup). (From En summ.) (LJW)
DESCRIPTORS (HEADINGS): Patents; Closures; Beverages
DESCRIPTORS: LIDS; UNITED STATES OF AMERICA
SECTION HEADINGS: Food Packaging (SC=f)

21/9/2 (Item 1 from file: 53)
DIALOG(R)File 53:FOODLINE(R): Food Science & Technology
(c) 2003 LFRA. All rts. reserv.
00335340 FOODLINE ACCESSION NUMBER: 361831
Venting cap or container.
Kalkanis P
PATENT ASSIGNEE: Procter & Gamble Co
PATENT: EP 619241 A1
PRIORITY APPLICATION DATE: 19930406
DESIGNATED STATES: AT; BE; CH; DE; DK; ES; FR; GB; GR; IE; IT; LI; LU; NL; PT; SE
LANGUAGE: English
DOCUMENT TYPE: Patent
FOODLINE UPDATE CODE: 19950113
ABSTRACT: A venting cap or container that comprises a lateral wall, which is perforated, and an **elastic band** , which covers the perforations on the outside of the lateral wall, is described. Any extra pressure generated inside the container is released through the perforations as the **elastic band** expands elastically. Such a cap or container is designed to be used with viscous or liquid products that produce gas during storage, such as fruit juice, thus preventing containers from exploding.
SECTION HEADING: PACKAGING
DESCRIPTORS: CLOSURES; **CONTAINER CLOSURES** ; CONTAINERS; CONTROLLED ATMOSPHERE STORAGE; **ELASTIC BAND** ; GAS; GASES; LIQUID FOODS; PATENTS; PERFORATED; PRESSURE; RELEASE; STORAGE; VENTING; VISCOUS PRODUCT

21/9/3 (Item 2 from file: 53)
DIALOG(R)File 53:FOODLINE(R): Food Science & Technology
(c) 2003 LFRA. All rts. reserv.
00299424 FOODLINE ACCESSION NUMBER: 321869
Flexible bag closure system.
Midgley R R; Moe K E; Eaton B W; Bond W J
PATENT ASSIGNEE: Minnesota Mining and Manufacturing Co
PATENT: EP 542889 A1
PATENT: WO 9202429 DATE:19920220
APPLICATION COUNTRY: US (DATE(S):19900731 19910215)
PRIORITY APPLICATION DATE: 19910722
DESIGNATED STATES: AT; BE; CH; DE; DK; ES; FR; GB; GR; IT; LI; LU; NL; SE
LANGUAGE: English
DOCUMENT TYPE: Patent
FOODLINE UPDATE CODE: 19930727
ABSTRACT: This patent describes a flexible bag closure system in which the

bag is kept open by means of an attached **elastic band** . The bag can be folded flat. The elastic **can** be used as a **closure** after use.
SECTION HEADING: PACKAGING
DESCRIPTORS: BAGS; BAND; CLOSURES; ELASTIC; FILMS; PACKAGING; PACKAGING FILMS; PACKAGING PRODUCTS; PATENTS

21/9/4 (Item 1 from file: 323)
DIALOG(R)File 323:RAPRA Rubber & Plastics

00303412
TITLE: POLYETHYLENE DUST CAPS PROTECT OPEN GALLON PAILS
SOURCE: Elastomerics; 117, No.11, Nov.1985, p.39
ISSN: 0146-0706
CODEN: ELASDA JOURNAL ANNOUNCEMENT: 198603 RAPRA UPDATE: 198603
DOCUMENT TYPE: Journal Article
LANGUAGE: English
ABSTRACT: CDF Corp. are now manufacturing polyethylene dust caps designed to protect open five gallon pails. The transparent caps come in three sizes to fit 55 and 30 gallon drums along with five gallon containers. The caps feature a nylon **elasticised band** to provide a secure grip. This abstract includes all the information contained in the original article.
SUBJECT HEADING (RAPRA): COVERS
COMPANY NAME: CDF CORP.
GEOGRAPHIC LOCATION: USA
DESCRIPTORS: **CLOSURE** ; COMPANY; COMPANIES; **CONTAINER** ; PACKAGING **CONTAINER** ; DUST; DUST **COVER** ; LID; NYLON; POLYAMIDE; PACKAGING; PE; ETHYLENE POLYMER; PROTECTIVE COVER
RAPRA CLASSIFICATION CODE: 42C11;6P33
CATEGORY CODES: QO

30/7/2 (Item 2 from file: 51)
DIALOG(R)File 51:Food Sci.&Tech.Abs

00622558 91-05-f0009 SUBFILE: FSTA
Preliminary study on double-reduced tinplate cans: determination of elastic deformation **and suitability for the liquid nitrogen injection process.)**
Dantas, S. T.; Garcia, A. E.; Soler, R. M.; Anjos, V. D. de A.
Inst. de Tecnologia de Alimentos, Av. Brasil, 2880, Caixa Postal 139, Campinas, SP, Brazil
Coletanea do Instituto de Tecnologia de Alimentos 1990 , 20 (2) 172-183
NOTE: 7 ref.
DOCUMENT TYPE: Journal Article
LANGUAGE: Portuguese SUMMARY LANGUAGE: English
Trials on suitability of double-reduced tinplate cans for packaging of foods and beverages are reported. Fluting of can bodies improved the capacity of the cans for **elastic deformation** in response to changes in internal pressure during heat treatment and cooling; the type of fluting had a small effect on the **elastic deformation** capacity. Double-reduced tinplate cans were found to be suitable for canning of non-carbonated beverages by the liquid nitrogen injection process. Internal pressure was linearly related to deflection of the **can ends** ; this permits non-destructive evaluation of internal pressure. (AJDW)

30/7/3 (Item 3 from file: 51)

DIALOG(R)File 51:Food Sci.&Tech.Abs
(c) 2003 FSTA IFIS Publishing. All rts. reserv.
00344483 87-09-v0027 SUBFILE: FSTA
Closure **for a** container .
Pavely, A. P.
Metal Box plc
PATENT CO.: UK Patent Application 1987
PATENT NO.: GB 2 180 228 A
NOTE: GB 8522284 (850909) (Metal Box, Reading RG1 3JH, UK)
DOCUMENT TYPE: Patent
LANGUAGE: English
A **closure** for a **container** such as a can for carbonated beverages comprises a relatively elastic annular collar which in its relaxed state is an easy fit in the **opening** of the **container**, and a relatively stiff plug which when fitted into the collar causes the collar to be **elastically deformed** into tight sealing engagement with the opening and with the plug. (AS)

30/7/5 (Item 5 from file: 51)
DIALOG(R)File 51:Food Sci.&Tech.Abs
(c) 2003 FSTA IFIS Publishing. All rts. reserv.
00200312 81-04-f0144 SUBFILE: FSTA
Self-venting end unit for pressure packaging.
Pan, P. N. Y.
Continental Group Inc.
PATENT CO.: United States Patent 1980
PATENT NO.: 4 210 255
DOCUMENT TYPE: Patent
LANGUAGE: English
End unit is described for packaging food products in an associated can or container; the product is of the type which produce gases which increase the internal pressure within the can after closing the can, e.g. coffee. The end unit has a vent opening and is closed by a closure held in contact with the container wall surrounding the vent opening by a **strip** of **elastic** material. When pressure within the container exceeds a predetermined pressure, the closure moves out of the container sealing position under the restraint of the strip, and the container is vented to the atmosphere. (RAW)

30/7/6 (Item 6 from file: 51)
DIALOG(R)File 51:Food Sci.&Tech.Abs
(c) 2003 FSTA IFIS Publishing. All rts. reserv.
00152672 78-08-f0248 SUBFILE: FSTA
(Container with beverage.)
Mit einem Getraenk gefuellter Behaelter.
Zahn, F.
PATENT CO.: German Federal Republic Patent Application 1978
PATENT NO.: 2 630 415
DOCUMENT TYPE: Patent
LANGUAGE: German
The container has an **elastically deformed** drinking straw supported by the bottom side of the closure cap. The straw, which is lightly fixed to the bottom side of the cap, springs out of the **container opening** when the cap is removed. The drinking straw may have a helical shaped lower section. (W&Co)

30/7/7 (Item 7 from file: 53)
DIALOG(R)File 53:FOODLINE(R): Food Science & Technology

(c) 2003 LFRA. All rts. reserv.
00895563 FOODLINE ACCESSION NUMBER: 568936
Closure device for liquid containers .
Wagner A
PATENT ASSIGNEE: L and M Services BV
PATENT: EP 1147994 A1
PRIORITY APPLICATION DATE: 7.4.2000
DESIGNATED STATES:
See published patent document for Designated Contracting States.
X-REFERENCE: BEVERAGE PACKAGING
LANGUAGE: French
DOCUMENT TYPE: Patent
FOODLINE UPDATE CODE: 20011127
ABSTRACT: A closure device for liquid product containers is described. The device, which is particularly appropriate for beverages, may be opened and closed without manual operation. The closure, which is opened using the mouth and teeth, may be used in situations where the consumer does not have free hands such as at sporting or other leisure events. The device includes an outer skirt designed to attach to the neck of the container and to a flange that may be at least in part **elastically deformable**. A rigid central socket has a dispensing hole. The device also has an inner open-work ring immobilized under the flange connected to a needle, which closes and seals the dispensing hole to prevent spillage.
SECTION HEADING: PACKAGING

30/7/8 (Item 8 from file: 53)
DIALOG(R)File 53:FOODLINE(R): Food Science & Technology
(c) 2003 LFRA. All rts. reserv.
00809438 FOODLINE ACCESSION NUMBER: 490338
Device for fixing a tamper-proof cap to a container.
Fred T
PATENT: WO 9858852 A1
APPLICATION COUNTRY: ES (DATE(S):19970623)
PRIORITY APPLICATION DATE: 19980619
DESIGNATED STATES:
See published patent document for Designated Contracting States.
X-REFERENCE: BEVERAGE PACKAGING
LANGUAGE: Spanish
SUMMARY LANGUAGE: English
DOCUMENT TYPE: Patent
FOODLINE UPDATE CODE: 19990413
ABSTRACT: An improved closure for bottles, etc., is disclosed, which includes a tamper-evident ring and **elastically deformable** bridges. The cap is designed to facilitate the first **opening** of the **container**, whilst securely retaining the ring on the container to prevent fraudulent refilling.
SECTION HEADING: PACKAGING

30/7/9 (Item 9 from file: 53)
DIALOG(R)File 53:FOODLINE(R): Food Science & Technology
(c) 2003 LFRA. All rts. reserv.
00367580 FOODLINE ACCESSION NUMBER: 401276
Containers and lids bonded thereto.
Ramsey C P
PATENT ASSIGNEE: CarnaudMetalbox plc
PATENT: GB 2289663 A

PRIORITY APPLICATION DATE: 19940521
LANGUAGE: English
DOCUMENT TYPE: Patent
FOODLINE UPDATE CODE: 19960212
ABSTRACT: A lid, with an **elastically deformable** central panel, and a container, are described. The lid and container have a side wall that terminates in a ring defining the mouth of the container. Existing cans with a removable lid suffer from several disadvantages. The proposed lid for a container body is easy to use and manufacture. A tamper-evident pull tab may be provided on the lid.
SECTION HEADING: PACKAGING

File 95:TEME-Technology & Management 1989-2003/Mar W5
File 624:McGraw-Hill Publications 1985-2003/Apr 16
File 481:DELPHES Eur Bus 95-2003/Apr W2
File 635:Business Dateline(R) 1985-2003/Apr 16
File 636:Gale Group Newsletter DB(TM) 1987-2003/Apr 16

Set	Items	Description
S1	690113	CLOSURE? ? OR COVER????
S2	2360239	CONTAINER? ? OR CAN OR CANS
S3	32357	ELASTIC?
S4	169755	BAND? ? OR STRIP OR STRIPS
S5	1083818	CONTRACT??? OR CONSTRICT???? OR DEFORM?
S6	1375995	OPENING? ? OR END? ?
S7	1870286	S1 OR S6
S8	149	S3()S4
S9	25	S7(S)S8
S10	256921	S2/DE
S11	4	S9 AND S10
S12	**4**	**RD (unique items)[not relevant]**
S13	65872	CONTAINER? ?
S14	795	(S1 OR S6)(2N)S13
S15	0	S8(S)S14
S16	0	S3(5N)S4(S)S14
S17	0	S3(S)S4(S)S14
S18	0	S5(S)S4(S)S14
S19	22	(S3 OR S5)(S)S14
S20	22	S19 NOT S11
S21	21	RD (unique items)
S22	2	S21/2001:2003
S23	19	S21 NOT S22
S24	**19**	**Sort S23/ALL/PD,D**

24/3,K/7 (Item 7 from file: 95)
DIALOG(R)File 95:TEME-Technology & Management
(c) 2003 FIZ TECHNIK. All rts. reserv.
00978938 M96030926612
Stretch and inflation of hyperelastic membranes as applied to blow molding
(Dehnung und Woelbung von hyperelastischen Membranen beim Blasformen)
Khayat, RE; Derdouri, A
Nat. Res. Council of Canada, Boucherville, CDN
Polymer Engineering and Science, Greenwich, v35, n23, pp1852-1863, 1995
Document type: journal article Language: English
Record type: Abstract
ISSN: 0032-3888
ABSTRACT:
...to obey the Mooney-Rivlin constitutive model, and the resulting partial differential equations, governing the **deformation** field, are solved using a Galerkin based finite-element procedure. The method is illustrated through...
...on the final thickness distribution of containers blow-molded in the author's laboratory. These **containers** typically **cover** a wide range of geometry and size, including bottles with handles. Comparison between theory and...

24/3,K/13 (Item 13 from file: 95)
DIALOG(R)File 95:TEME-Technology & Management
(c) 2003 FIZ TECHNIK. All rts. reserv.

00761284 M94028015601
Container-closure assembly including a screw-cap having anti-backoff teeth in its threads
(Behaelter-Verschlusskappe mit Rueckhaltezaehnen im Schraubgewinde)
Shay, JJ
Speciality Packaging Licensing Co., Wilmington, USA
1993
Document type: European patent application Language: English
Record type: Abstract
ABSTRACT:
A plastics **container - closure** assembly which comprises a first component in the form of a container having an externally...
...screwed onto the finish, the teeth dig into the threads on the finish causing local **elastic deformation** of the threads and resist backing off the cap from the finish. (No obligations as...

24/3,K/14 (Item 14 from file: 95)
DIALOG(R)File 95:TEME-Technology & Management
(c) 2003 FIZ TECHNIK. All rts. reserv.
00682021 M93058276665
Apparatus and method for reshaping containers
(Vorrichtung und Verfahren zum Wieder-in-Form-bringen von Behaeltern)
Bilko, JP; Arnell, SR; Boyd, AJ; Goodwin, PA
CMB Foodcan, Worcester, GB
1993
Document type: European patent application Language: English
Record type: Abstract
ABSTRACT:
...second end thereof with respect to the mold, means for sealing the or each open **end** of the **container** , means for supplying a fluid under pressure to the interior of the container so as...
...inner surface of the mold, and means for preventing the or each double seam from **deforming** during expansion of the container. (No obligations as to scope of patent protection and application.)

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File   9:Business & Industry(R) Jul/1994-2003/Apr 16
File  16:Gale Group PROMT(R) 1990-2003/Apr 16
File 160:Gale Group PROMT(R) 1972-1989
File  18:Gale Group F&S Index(R) 1988-2003/Apr 16
File 148:Gale Group Trade & Industry DB 1976-2003/Apr 16
File  80:TGG Aerospace/Def.Mkts(R) 1986-2003/Apr 15
File 621:Gale Group New Prod.Annou.(R) 1985-2003/Apr 16
Set     Items   Description
S1    2283013   CLOSURE? ? OR COVER????
S2    7572846   CONTAINER? ? OR CAN OR CANS
S3      39751   ELASTIC?
S4     462957   BAND? ? OR STRIP OR STRIPS
S5    3622671   CONTRACT??? OR CONSTRICT???? OR DEFORM?
S6    4617981   OPENING? ? OR END? ?
S7       1384   PC=307471
S8          0   S3(3N)S4 AND S7
S9      30499   CONSTRICT? OR DEFORM?
S10      1677   (S3 OR S9)(S)S4
S11         0   S7 AND S10
S12     43907   CONTAINER? ?/DE
S13       166   S1(S)S10
S14         3   S12 AND S13
S15         3   RD (unique items)
S16         2   S13 AND S1/DE
S17         1   S16 NOT S14 [not relevant]

15/3,K,DE/3     (Item 1 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2003 The Gale Group. All rts. reserv.
03898640     SUPPLIER NUMBER: 07469401    (USE FORMAT 7 OR 9 FOR FULL TEXT)
Materials and containers: high-tech materials and containers result in
  breakthrough packaging.
Packaging (Boston, Mass.), v34, n5, p52(7)
March 19, 1989
ISSN: 0746-3820      LANGUAGE: ENGLISH      RECORD TYPE: FULLTEXT
WORD COUNT:   3487    LINE COUNT:  00287
 DESCRIPTORS:  Packaging industry--Product introduction; Container
  industry--Product introduction
...     from metal aerosols and composite cans to tin pails and plastic
trays. A range of closures , labels, case-packing and shipping products,
as well as flexible materials of all types are...
...Lin Pac Plastics Squeezable labels resist moisture, won't wrinkle. The
SqueezePlay decorating process for deformable containers is made with
3-mil medium-density polyethylene on a 42-pound liner. The...
...with any automatic labeling or banding equipment on the market. The
full-body PVC labels cover irregularly shaped containers and can be
combined with tamper-evident neck- bands separated by a wraparound
perforation to simplify product decoration and protection into one process.
Shaant Industries Inc. Plastic- closure product line expands. In addition
to 400 Series polypropylene, modified-buttress thread closures ,
fine-ribbed and smooth-sided in sizes from 28mm to 110mm, the firm supplies
 closures in styrene and a low-melt resin, polypropylene closures for
bleach-container applications. Both custom and stock-embossed closures
are offered, as well as printed products. Top-Seal Corp. Medical-device
resin is an...
...and handling problem of unitized loads sticking or rubbing together.
```

Mobil Chemical Co. Deep-ribbed **closures** are designed for PET jars. Available in 70-, 77-, 83- and 89-millimeter sizes, the new line of polypropylene **closures** are offered in white or a variety of colors, lined or unlined. Santa Fe Plastic...entrees, sidedishes and other prepared foods, also features a low-temperature sealant that can eliminate **closure** problems on the packaging line as well as improve profitability. 3M Energy Control Products Div...
...heat-sealed blisters. Designed to be sealed in polybags, these containers have hinged fold-over **covers** that protect medical devices during sterilization, packaging and shipping. The **covers** also eliminate the need for peel-away liddings and expensive sealing equipment. Crystal Thermoplastics `Double Flip' dispenses two products from common overcap. The new **closure** has been designed as a snap-on or stake-on system for the successful Tandem...
...produced in one piece, thereby avoiding costly assembly. The controlled "I" dimension in both the **closure** and container produce a plug seal that does not need the torque applications of conventional valve-seal **closures** . SmileTote Inc. Three-panel coupon label peels off cleanly. Peel-Coupon offers a total of...
...Products Two-position dispensing spout fits 89mm and 110mm finishes. The new, large-scale dispensing **closure** can be adjusted for easy pouring at half or full opening. Comfortably handled by persons wearing gloves, the **closure** is easily opened. There is no need to invert the entire container; just bring it to a horizontal position to dispense. The polypropylene **closure** is available either lined or unlined and has a convenient spreading pattern so that contents...
...strapping, pressure-sensitive polypropylene strapping tape, twine and stretch film. Nifty Packaging Products New dispensing **closures** top entire hair-care product line. Based on good cosmetic appearance, short lead times and natural hair and skin-care products now sport the firm's dispensing **closures** . Also available are plastic-bottle **closures** , plugs, fitments and double-wall jars. Five plants are located nationwide. Poly-Seal Corp. Pharmaceutical...
...stripping performance. Nashua Graphic Products Standard screw caps fit narrow-neck applications. The Series SSC **closures** feature high-performance capabilities ideal for virtually all narrow-neck glass or plastic bottles with industry-standard finishes. Made of durable polypropylene, the continuous-thread **closures** feature a modified-buttress design, which allows for higher application torques without stripping or bulging...
...DESCRIPTORS: **Container** industry

15/3,K,DE/1 (Item 1 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)
(c) 2003 The Gale Group. All rts. reserv.
10156963 Supplier Number: 92828776
Closures: Topping it off. (Bev Solutions: In The Package).(Various new closures for beverage containers)(Brief Article)(Product Announcement)
Russo, Pat
Beverage World, v121, n9, p86(5)
Sept 15, 2002
Language: English Record Type: Fulltext
Article Type: Brief Article; Product Announcement
Document Type: Magazine/Journal; Trade
Word Count: 2154
DESCRIPTORS: Bottled water industry--Product introduction; Plastic

container industry--Product introduction; Aluminum industry--Product introduction
EVENT NAMES: *336 (Product introduction)
SIC CODES: 2086 (Bottled and canned soft drinks); 3089 (Plastics products, not elsewhere classified); 3334 (Primary aluminum)
NAICS CODES: 312112 (Bottled Water Manufacturing); 326199 (All Other Plastics Product Manufacturing); 331312 (Primary Aluminum Production)
... any extraneous taste or odor to bottled water.

Available in a 28-mm size, the **closure** can be used with various sized spring and bottled water products, from 12-ounce to 1.5-liter bottles. The product incorporates a sophisticated outside **deformable** seal that provides optimal airtight conditions. It also utilizes the company's flexible tamper-evident **band** , which is easy to apply and proven among a growing list of companies in a...
...DESCRIPTORS: Product introduction; Plastic **container** industry...

```
File 605:U.S. Newswire 1999-2003/Apr 17
File 665:U.S. Newswire 1995-1999/Apr 29
File  20:Dialog Global Reporter 1997-2003/Apr 17
Set     Items   Description
S1    1620951   CLOSURE? ? OR COVER????
S2    5594913   CONTAINER? ? OR CAN OR CANS
S3      11325   ELASTIC?
S4     390597   BAND? ? OR STRIP OR STRIPS
S5    1762791   CONTRACT??? OR CONSTRICT???? OR DEFORM?
S6    4292932   OPENING? ? OR END? ?
S7      18423   DS
S8      63476   S2(3N)(S1 OR S6)
S9       3185   (S3 OR S5)(10N)S4
S10         3   S8(S)S9
S11         3   RD (unique items)[not relevant]

File 148:Gale Group Trade & Industry DB 1976-2003/Apr 16
File 211:Gale Group Newsearch(TM) 2003/Apr 16
Set     Items   Description
S1          2   ZERO()GRAVITY AND (CLOSURE OR CLOSURES)(5N)CONTAINER? ?
S2          1   RD (unique items)[too recent]
```

```
File 350:Derwent WPIX 1963-2003/UD,UM &UP=200325
File 347:JAPIO Oct 1976-2002/Dec(Updated 030402)
File 371:French Patents 1961-2002/BOPI 200209
Set     Items   Description
S1    1081491   CLOSURE? ? OR COVER????
S2    4616988   CONTAINER? ? OR CAN OR CANS
S3     410589   ELASTIC?
S4     588054   BAND? ? OR STRIP OR STRIPS
S5     433856   CONTRACT??? OR CONSTRICT???? OR DEFORM?
S6    3316225   OPENING? ? OR END? ?
S7       1819   IC=B65D-047/20
S8       1347   IC=B65D-051/00
S9       2093   IC=B65D-053/00
S10     13480   (S3 OR S5)(3N)S4
S11         7   S10 AND S8:S9
S12        25   S7 AND S8:S9
S13        25   S12 NOT S11
S14        23   (S1 OR S6) AND S13
S15         0   (S3 OR S5) AND S4 AND S14
S16         6   S3:S5 AND S14
S17       300   ZERO()GRAVITY
S18     87905   CLOSURE? ?
S19         1   S17 AND (S18 OR S8 OR S9)
S20         0   S19 NOT S16
S21        19   S12 NOT S16

 11/26,TI/2     (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2003  Thomson Derwent. All rts. reserv.
010772198
WPI Acc No: 1996-269151/199628
  Replacement lid for tin of paint - is made of clear plastics with seal
  and  elastic   bands  glued to edge of lid

 11/26,TI/3     (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2003  Thomson Derwent. All rts. reserv.
004057600
WPI Acc No: 1984-203141/198433
  Closure cap for tap on cylinder of liquefied petroleum gas etc. - cannot
  be removed without permanently deforming attachment fingers

 11/7/4     (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2003  Thomson Derwent. All rts. reserv.
003459963
WPI Acc No: 1982-09760E/198205
  Filter cover with suction tube - for transferring esp. plastic pellets
  from storage containers without contamination
Patent Assignee: ELTVEDT F (ELTV-I)
Inventor: ELTVEDT F
Number of Countries: 002  Number of Patents: 003
Patent Family:
Patent No     Kind   Date     Applicat No    Kind   Date     Week
US 4311492     A   19820119                          198205  B
DE 3136710     A   19820429  DE 3136710      A   19810916  198218
```

DE 3136710 C 19891026 198943
Priority Applications (No Type Date): US 80189799 A 19800922
Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
US 4311492 A 5
Abstract (Basic): US 4311492 A

Particulate material is removed from a storage container by a suction tube which passes through and is sealed to a transparent flexible cover removably securable to the container mouth. The cover includes a fitter for trapping liquid and dust from air entering the container as its contents are removed by the suction tube.

Specifically the cover is secured to the container mouth by a drawstring or **elastic band** . Plastic pellets are kept uncontaminated during transfer to injection-moulding presses.

Derwent Class: J01; Q33
International Patent Class (Additional): B01D-039/08; B01D-046/54; B29B-005/04; B29C-031/00; B65D-047/34; **B65D-051/00**

11/7/5 (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2003 Thomson Derwent. All rts. reserv.
003190878
WPI Acc No: 1981-51430D/198128
Jar or bottle plastics cap - with tinner section between top panel and skirt for better sealing on neck end
Patent Assignee: CONTINENTAL GROUP INC (CONC)
Inventor: WESTFALL J E
Number of Countries: 012 Number of Patents: 003
Patent Family:
Patent No Kind Date Applicat No Kind Date Week
US 4274544 A 19810623 198128 B
EP 36256 A 19810923 198140
CA 1138819 A 19830104 198306
Priority Applications (No Type Date): US 80129443 A 19800311
Cited Patents: CH 587755; DE 823993; FR 1135301; GB 1004277; US 2586775; US 2914206; US 3160303; US 3281000; US 3595418
Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
EP 36256 A E
Designated States (Regional): AT BE CH DE FR GB IT LU NL SE
Abstract (Basic): US 4274544 A

A cap has a skirt securable on the neck axially tensioned and connected to a central panel by an integral annular **deformable** sealing **strip** thinner than the skirt and forming an annular sealing surface radially spaced from both skirt and panel to be axially aligned with the rounded neck end surface.

The strip has a transition section increasing in thickness towards the skirt which draws the radially outer part of the sealing surface down and around the neck end. The sealing surface is pref. radially offset inwardly from the strip centre and is of uniform thickness. The arrangement allows the cap to seal on neck ends which are irregular or lie in a plane tilted from a position normal to the container axis

Derwent Class: A92; Q33
International Patent Class (Additional): B65D-041/04; **B65D-053/00**

11/7/6 (Item 6 from file: 350)

DIALOG(R)File 350:Derwent WPIX

001771123
WPI Acc No: 1977-003599/197722
Process for making plastic strip - and strip **obtained by structural** deformation **of volumes**
Patent Assignee: PLASBRAS IND COM (PLAS-N)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
BR 7506624	A	19770517				197722 B

Priority Applications (No Type Date): BR 756624 A 19751009
Derwent Class: A32; Q33
International Patent Class (Additional): B29D-029/00; **B65D-053/00**

11/7/7 (Item 1 from file: 371)
000729791 **Image present**
Titre: CAPSULE DE SECURITE ET DE GARANTIE, NOTAMMENT POUR L'OBTURATION DU NEZ DE ROBINET DE RECIPIENTS DE GAZ DE PETROLE LIQUEFIES
Deposant: UTILISATION RATIONNELLE GAZ
Nom et Adresse du Deposant: UTILISATION RATIONNELLE GAZ (FR-75)
Nom Inventeurs: JOEL BLONDET
Nom Mandataire: REGIMBEAU CORRE MARTIN SCHRIMPF
Nature de Publication: Brevet
Information de Brevet et Priorites (Pays, Numero, Date):
Numero Publication: FR 2539212 - 19840713
Numero Depot: FR 83391 - 19830112
Priorites: FR 83391 - 19830112
Rapport de Recherche Preliminaire (Brevet/Reference, Code de Pertinence):
Rapport de Recherche
FR 1378912 A (Cat. A)
FR 2197781 A (Cat. D,A)
FR 1440756 A (Cat. A)
Resume:
La capsule comprend : un fond plein 100 obturant le nez 10 de robinet ; une jupe tronconique divisee par une serie de fentes en une pluralite de doigts 210, 220 souples ; un anneau de sertissage 300 pouvant etre, au moment du capsulage, glisse axialement autour de la jupe pour sertir la capsule en rabattant radialement et en maintenant les doigts ; un anneau de traction 400 relie a l'anneau precedent par une partie pleine 410 sur une fraction de circonference et apte a transmettre un effort suffisant pour distendre l'anneau de sertissage. Selon l'invention, il est egalement prevu une bande flexible 500 reliant l'anneau de sertissage a l'extremite d'au moins un des doigts 220, ce doigt etant deformable sous l'effet de la force exercee par l'anneau de traction et transmise par la **bande** flexible. Cette **deformation** ameliore la separation de la capsule du nez du robinet et interdit un revissage ulterieur. (CF DESSIN DANS BOPI)
Classification Internationale (Principale): F17C-013/06
Classification Internationale: **B65D-051/00**
Forme Juridique (Type, Date de l`action, No. de BOPI, Description):

Publication	19840713	8428	Date de publication
Rapp de Rech	19840713	8428	Date de Rapport de Recherche
Delivrance	19850503	8518	Date de delivrance
Registre CN	19860410		CN - Changement de forme juridique N11883
Decheance	19940930		Date de decheance

16/7/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX

011394847 **Image available**
WPI Acc No: 1997-372754/199734
Nozzle for dispensing product in liquid or paste form used in pharmaceutical or cosmetic industry - has spring-loaded stopper inside nozzle bush, and inlet valve with peripheral lip dividing passage round stopper stem into two compartments.
Patent Assignee: SOFAB SA (SOFA-N); REXAM SOFAB (REXA-N); SOFAB (SOFA-N)
Inventor: BOUGAMONT J; HENNEMANN P; BOUGAMONT J L
Number of Countries: 021 Number of Patents: 008
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9725253	A1	19970717	WO 97FR21	A	19970107	199734	B
FR 2743353	A1	19970711	FR 96120	A	19960108	199735	
EP 874761	A1	19981104	EP 97900238	A	19970107	199848	
			WO 97FR21	A	19970107		
EP 874761	B1	19991020	EP 97900238	A	19970107	199948	
			WO 97FR21	A	19970107		
DE 69700650	E	19991125	DE 600650	A	19970107	200002	
			EP 97900238	A	19970107		
			WO 97FR21	A	19970107		
US 5992764	A	19991130	WO 97FR21	A	19970107	200003	
			US 9891824	A	19980708		
ES 2139434	T3	20000201	EP 97900238	A	19970107	200013	
JP 2000502978	W	20000314	JP 97524913	A	19970107	200024	
			WO 97FR21	A	19970107		

Priority Applications (No Type Date): FR 96120 A 19960108
Cited Patents: CH 178923; FR 2203752; FR 2662424; FR 627319; FR 967501; GB 2048827; US 1862794; US 1888007; US 2039952; US 2140247; US 2168297
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9725253	A1	F	23	B65D-047/20	
Designated States (National): CA JP US					
Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE					
DE 69700650	E			B65D-047/20	Based on patent EP 874761
					Based on patent WO 9725253
US 5992764	A			B65D-047/20	Based on patent WO 9725253
ES 2139434	T3			B65D-047/20	Based on patent EP 874761
JP 2000502978	W		23	B65D-047/20	Based on patent WO 9725253
EP 874761	A1	F		B65D-047/20	Based on patent WO 9725253
Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE					
EP 874761	B1	F		B65D-047/20	Based on patent WO 9725253
Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE					
FR 2743353	A1			B65D-047/30	

Abstract (Basic): WO 9725253 A

The nozzle, designed to be fitted onto a product container (R) to which a pressure can be applied, consists of a bush (1) which has a coupling (11) at one **end** for connecting to the container and an outlet orifice (10) at the other. The bush contains a moving stopper in the form of a stem (21) with a plug (20) at its outer **end** forming an

outlet valve with the bush's orifice, and a transverse partition (22) at its inner **end** which forms a passage for the product and engages with a return spring (3).

The bush also has an inlet valve formed by a peripheral **deformable** lip (23) which divides the passage round the stem into forward and after compartments. The lip is joined to the stem and its free edge makes contact with the inner wall of the bush when the valve is closed. The lip is carried by a sleeve located coaxially with the stem, and the transverse partition (22) is made in one piece with the sleeve.

ADVANTAGE - Prevents drying out or contamination of product.

Dwg.2/5

Derwent Class: Q33; Q34
International Patent Class (Main): **B65D-047/20** ; B65D-047/30
International Patent Class (Additional): **B65D-053/00** ; B65D-055/02; B65D-083/14; B65D-083/44

16/7/4 (Item 4 from file: 350)

DIALOG(R)File 350:Derwent WPIX
(c) 2003 Thomson Derwent. All rts. reserv.
010444434 **Image available**
WPI Acc No: 1995-345751/199545

Fastener with cap, e.g. for liquid soap in showers - has sealing element including permanently open central dispensing aperture, sealed against support element in closed position

Patent Assignee: S DESIGN SUFFA GMBH UDO (SDES-N)
Inventor: KNAUER R; SUFFA U
Number of Countries: 002 Number of Patents: 004
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
DE 19510007	A1	19951005	DE 1010007	A	19950323	199545	B
WO 9526306	A1	19951005	WO 95EP1104	A	19950323	199545	
AU 9521357	A	19951017	AU 9521357	A	19950323	199604	
DE 19580254	T	19961114	DE 1080254	A	19950323	199651	
			WO 95EP1104	A	19950323		

Priority Applications (No Type Date): DE 4410239 A 19940325
Cited Patents: EP 296004; FR 1381752; US 1880103; US 4747518; US 5115950; WO 9429187
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 19510007	A1		6	B65D-035/50	
WO 9526306	A1	G	18	B65D-047/20	
AU 9521357	A			B65D-047/20	Based on patent WO 9526305
DE 19580254	T		1	B65D-047/20	Based on patent WO 9526306

Abstract (Basic): DE 19510007 A

The fastener has a cap (1) and a **cover** . The cap contains an easily **deformable** sealing element (2), forming a dispensing aperture in the **deformed** state. The sealing element is held on one side by a support element (17) of the cap and on the other by a holding flange against which the sealing element is pressed.

The sealing element can be pressed out when lifted off the support element, putting it in the dispensing position. The sealing element has a permanently open central dispensing aperture (23), sealed against the support element in the closed position.

ADVANTAGE - Improves the dispensing of content.

Dwg.1/5

Derwent Class: Q32; Q33

International Patent Class (Main): B65D-035/50; **B65**D-047/20
International Patent Class (Additional): **B65D-053/00**

16/7/5 (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX

004223506
WPI Acc No: 1985-050385/198509
Cap for vessels containing inflammable liquids - contains valve incorporating membrane which is trapped between top of vessel and lower part of cap
Patent Assignee: AHK ALKOHOL HANDELSKONTOR GMBH (AHKA-N)
Inventor: SCHUSTER W; SCONDO L; STAHL J
Number of Countries: 015 Number of Patents: 019
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
BE 900785	A	19850201	BE 900785	A	19841010	198509	B
DE 3337060	A	19850502	DE 3337060	A	19831012	198519	
GB 2147886	A	19850522	GB 8425348	A	19841008	198521	
SE 8405023	A	19850413				198522	
NL 8402942	A	19850501				198523	
FR 2555551	A	19850531				198527	
LU 85566	A	19850402				198527	
DK 8404867	A	19850413				198531	
ZA 8407993	A	19850415				198531	
PT 79347	A	19851025				198549	
US 4574967	A	19860311	US 84658826	A	19841009	198613	
GB 2147886	B	19870610				198723	
SE 453662	B	19880222				198810	
CH 664942	A	19880415				198820	
IT 1176922	B	19870818				199032	
DE 3337060	C	19900913				199037	
NL 186780	B	19900917				199039	
CA 1279034	C	19910115				199109	
AT 8403239	A	19911015				199144	

Priority Applications (No Type Date): DE 3337060 A 19831012
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
BE 900785	A		15		

Abstract (Basic): BE 900785 A

The cap contains a valve made up of a membrane with a central recess, through which a conical needle projects. The cap is made up of an upper part which is releasably screwed onto a lower part, which is threaded onto the top of the vessel.

The lower part has an internal thread which receives the top of the vessel and an internally directed shoulder which bears onto the edge of the membrane.

The inner surface of the lower part carries clips which cooperate with the projections disposed about the periphery of the top of the vessel, in order to hold the cap in place.

0/5

Abstract (Equivalent): DE 3337060 C

A bottle (B) for inflammable liquid includes a cylindrical outlet sleeve (11) with an external thread (11a). A flange bush (15,18), made of **elastic** material located inside the sleeve (11), is provided with internal radial arms (16) for the location of a safety dispensing valve (17).

The top **end** of the valve is also located by an **elastic** sealing membrane (13) whose flange (14) locates against the bush flange (18). To secure the valve location, a screw bush with an internal shoulder is screwed onto the bottle sleeve (11). An **end** cap is then screwed onto the upper **end** of the screw bush when the bottle is not in use.

ADVANTAGE - Dispenser bottle for inflammable liquid is provided with safety valve and sealing screw cap. (8pp

Abstract (Equivalent): GB 2147886 B

A combination of a cap and container, the cap being a sealing cap, having a screw thread, and the container being provided with a safety valve, from which container, in particular, readily flammable liquids are poured, the safety valve consisting of a conical valve which is supported by a cylindircal moulding, controlled by a membrane and actuated by reducing the interior space of the container, the membrane of this conical valve having a central recess limited by a gasket through which a valve cone is inserted, the gasket of the membrane bearing on this valve cone and being itself moulded onto a cylindrical membrane carrier which encloses the upper edge region of the cylindrical section of the moulding of the conical valve and rests, by means of a flange which projects radially outwards, on a collar of the moulding of the valve support, which collar projects radially outwards, said container having an external thread situated on the neck thereof below the valve and at least two remaining lugs situated on the neck thereof below said external thread, the sealing cap comprising a bottom part which can be screwed onto the container neck by way of an internal thread of said bottom part, and a top part which can be screwed onto the the bottom part, the bottom part being subdivided into three stepped sections, that is a bottom section, a middle section and a top section, the middle section joining the top section by an inward-drawn step and having an internal thread which is adapted to be screwed onto the external thread on the container neck, the bottom section joining the middle section by an outward pointing step shoulder and having detent tabs which are moulded onto the inner wall of this section, the step between said top section and said middle section resting firmly on the upper side of the flange of the membrane support when the sealing cap is screwed on, the detent tabs interacting with the retaining lugs arranged on the container neck.

Abstract (Equivalent): US 4574967 A

The sealing cap consists of separatable top and bottom sections. The bottom section has internal threads interactable with the external threads of the container. An inwardly projecting step above the internal thread is situated to rest firmly on the upper side of the flange of the membrane support of the container. At least two detent tabs are situated on the inner wall and interact with the retaining lugs.

External threads are interactable with internal threads situated on the separable top section. The separable top section is a cap having internal threads interactable with the external threads of the bottom.

ADVANTAGE - Reduced risk of leakage. (7pp)i

Derwent Class: Q32; Q33; Q39; Q66

International Patent Class (Additional): B65D-035/46; B65D-041/62; **B65D-047/20** ; B65D-051/18; **B65D-053/00** ; B65D-055/12; B67D-000/00; F16K-027/12

16/7/6 (Item 6 from file: 350)

DIALOG(R)File 350:Derwent WPIX

003538349
WPI Acc No: 1982-86342E/198241
Closure **e.g. for bottle or sink - has disc reversibly flexible between stable open and closed states**
Patent Assignee: SHELL INT RES MIJ BV (SHEL); WINDMILL PLASTICS L (WIND-N)
Inventor: VARNDELL J A
Number of Countries: 018 Number of Patents: 011
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
GB 2096118	A	19821013				198241 B
EP 63437	A	19821027	EP 82301741	A	19820401	198244
NO 8201122	A	19821101				198247
PT 74711	A	19830118				198310
DK 8201454	A	19830228				198315
BR 8201942	A	19830308				198317
ZA 8202206	A	19830221				198325
US 4423824	A	19840103	US 82362606	A	19820329	198404
EP 63437	B	19850123				198505
DE 3262007	G	19850307				198511
CA 1182783	A	19850219				198512

Priority Applications (No Type Date): GB 8110878 A 19810407; GB 829600 A 19820401
Cited Patents: AU 470723; DE 2233383; FR 1253750; US 2024227; US 2968047; US 3876102; US 3934745; US 4149138
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
GB 2096118	A		6		
EP 63437	A	E			
Designated States (Regional): AT BE CH DE FR GB IT LI LU NL SE					
EP 63437	B	E			
Designated States (Regional): AT BE CH DE FR GB IT LI LU NL SE					

Abstract (Basic): GB 2096118 A

A **closure** has a resiliently **deformable** disc centrally mounted on a base and reversibly flexible between two stable dished configurations, one externally convex closed with the disc rim bearing on or surrounding the base and externally concave open with the rim spaced from the base.

Pref. at least the disc is of flexible polyethylene or polypropylene and it is mounted by a resilient bridge spanning the base central area. The base and disc together may form a container charged with an annulus of solid material, e.g. air-freshener, for exposure to the atmosphere with the disc open, or the base is an insert for an aperture closed or opened by the disc

Derwent Class: A84; A92; P28; Q31; Q32; Q33; Q39; Q42
International Patent Class (Additional): A47K-001/14; B65B-000/00; B65D-039/02; B65D-041/52; B65D-045/02; **B65D-047/20** ; **B65D-051/00** ; B67B-000/00; E03C-001/23; H01H-037/54

21/26,TI/3 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX

012065957
WPI Acc No: 1998-482868/199842
Dispensing lid assembly for use with container - has check valve to

provide controlled introduction of air into container to equalise pressure during dispensing

21/26,TI/6 (Item 6 from file: 350)
DIALOG(R)File 350:Derwent WPIX

011216771
WPI Acc No: 1997-194696/199718
Resealable container partic. vial holding solid drug, has membrane over neck finish to seal closure tubular central orifice - membrane has openings outside sealing area and can be pressed down to open by pusher slidable in orifice

21/26,TI/7 (Item 7 from file: 350)
DIALOG(R)File 350:Derwent WPIX

011201181
WPI Acc No: 1997-179106/199716
Dispensing valve closure with inner seal, used in food or beverage industry - includes closure body and cap, with self-sealing dispensing valve disposed within closure and held in place with retaining ring, and inner seal also placed within closure to allow for sealing on package

21/26,TI/8 (Item 8 from file: 350)
DIALOG(R)File 350:Derwent WPIX

010135035
WPI Acc No: 1995-036286/199505
Clog resistant toggle disc closure for container - automatically clears residual product from discharge orifice when closure is operated after dispensing

21/26,TI/11 (Item 11 from file: 350)
DIALOG(R)File 350:Derwent WPIX

007458830
WPI Acc No: 1988-092764/198814
Two-part closure for liq. container - has screw top for profiled filler stub with central stopper

21/26,TI/12 (Item 12 from file: 350)
DIALOG(R)File 350:Derwent WPIX

007451322
WPI Acc No: 1988-085256/198813
Hair treatment fluid storage and dispensing container - incorporates dip tube for filling internal storage space for accurate fluid mixing

21/26,TI/13 (Item 13 from file: 350)
DIALOG(R)File 350:Derwent WPIX

004782125
WPI Acc No: 1986-285466/198644
Compressible two or three-component simultaneous dispensing container - has concentric necks of part-containers contg. fixed member with outlets and concentric partitions on member

21/26,TI/14 (Item 14 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2003 Thomson Derwent. All rts. reserv.
004579091
WPI Acc No: 1986-082435/198613
Rotary action bottle cap - has fixed and moving parts with sinusoidal contact edges producing alternate opening and closing action

21/26,TI/15 (Item 15 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2003 Thomson Derwent. All rts. reserv.
004443906
WPI Acc No: 1985-270784/198544
Vessel neck sealing cap - has locking step above sealing seat forming stop for catch bracket

21/26,TI/16 (Item 16 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2003 Thomson Derwent. All rts. reserv.
004370385
WPI Acc No: 1985-197263/198533
Insulated jug with dispensing cap - has push button on top operating dispensing vale for discharge onto pouring spout

21/26,TI/17 (Item 17 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2003 Thomson Derwent. All rts. reserv.
002120772
WPI Acc No: 1979-E0699B/197918
Closure assembly for tube with cam surface - which connects with each channel to align cap with locking catch

21/7/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2003 Thomson Derwent. All rts. reserv.
014240597 **Image available**
WPI Acc No: 2002-061297/200208
Fluid dispensing closure for container has liner whose outer end expands from flow tip or collapses over fluid passage outer end based on fluid pressure to allow egress of fluid or to prevent fluid return
Patent Assignee: OWENS-ILLINOIS CLOSURES INC (OWEI)
Inventor: ROBINSON P J
Number of Countries: 033 Number of Patents: 008
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 6325253	B1	20011204	US 2001776357	A	20010202	200208	B
EP 1228975	A2	20020807	EP 2002250718	A	20020201	200259	
AU 200214779	A	20020808	AU 200214779	A	20020201	200263	
CA 2369546	A1	20020802	CA 2369546	A	20020129	200263	
BR 200200277	A	20021008	BR 2002277	A	20020201	200277	
JP 2002302144	A	20021015	JP 200226336	A	20020204	200282	
ZA 200200891	A	20021030	ZA 2002891	A	20020131	200282	
CN 1369413	A	20020918	CN 2002107729	A	20020201	200303	

Priority Applications (No Type Date): US 2001776357 A 20010202
Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes
US 6325253 B1 7 B65D-037/00
EP 1228975 A2 E B65D-047/20
Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI TR
AU 200214779 A B65D-047/18
CA 2369546 A1 E B65D-051/00
BR 200200277 A B65D-047/06
JP 2002302144 A 6 B65D-047/06
ZA 200200891 A 18 B65D-000/00
CN 1369413 A B65D-047/22
Abstract (Basic): US 6325253 B1

NOVELTY - The outer end of a flexible resilient liner (32) resiliently expands from the outer surface of a flow tip (42) due to a fluid pressure in the fluid passage of the flow tip, to permit the egress of fluid from the fluid passage. The outer end of the liner collapses over the outer end of the fluid passage when the fluid pressure is removed to prevent the return of the fluid to the passage.

DETAILED DESCRIPTION - The flow tip has fluid passages extending along a peripheral surface from an inner end to a position spaced from a flow-tip outer end. The flexible resilient liner is provided on the flow tip forming an outer wall of the fluid passage. A housing (22) secures the liner to the flow tip such that the outer ends of the liner and flow tip extend through the outer end of the housing. INDEPENDENT CLAIMS are also included for the following:

(a) a closure and container package;

(b) and a fluid dispensing closure manufacturing method.

USE - For use in container.

ADVANTAGE - Prevents growth of bacteria on exterior surface of flow tip and flange between closure and container package by impregnating an antibacterial agent into the resilient liner or flow tip. Prevents backflow of supplied fluid into fluid passage after fluid supply since outer end of liner closes fluid passage through resilient collapse over outer end of fluid passage.

DESCRIPTION OF DRAWING(S) - The figure shows the fragmentary sectional view of closure secured to container.

Housing (22)
Liner (32)
Flow tip (42)
pp; 7 DwgNo 2/5

Derwent Class: Q32; Q33; Q34
International Patent Class (Main): B65D-000/00; B65D-037/00; B65D-047/06; B65D-047/18; **B65D-047/20** ; B65D-047/22; **B65D-051/00**
International Patent Class (Additional): B01L-003/00; B29C-000/00; B65D-035/52; B65D-051/14; B65D-083/00; B65D-083/56

21/7/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2003 Thomson Derwent. All rts. reserv.
012796121 **Image available**
WPI Acc No: 1999-602351/199952
Rosette valve for automatic closure of pliable plastic bottles
Patent Assignee: AHRENS E (AHRE-I); AHRENS H (AHRE-I); REULEKE E (REUL-I)
Inventor: AHRENS E; AHRENS H; REULEKE E
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No Kind Date Applicat No Kind Date Week
DE 19817625 A1 19991028 DE 1017625 A 19980421 199952 B
Priority Applications (No Type Date): DE 1017625 A 19980421
Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
DE 19817625 A1 17 B65D-047/20
Abstract (Basic): DE 19817625 A1

NOVELTY - The rosette valve structure has a valve section with outer axial and star-shaped ribs (6). A clamping collar (5) is fitted from the outside, inwards. The radial height of the ribs (6) at least equals the inner radius of the valve tube (4) when originally shaped.

DETAILED DESCRIPTION - The rosette valve structure has a valve section with outer axial and star-shaped ribs (6). A clamping collar (5) is fitted from the outside, inwards. The radial height of the ribs (6) at least equals the inner radius of the valve tube (4) when originally shaped. When the valve section is pushed into place with the inner ribs, the side walls and outer edges of the ribs take up the shape of a sealed rosette (8) against the liquid, under spring tension.

USE - The rosette valve is for pliable plastics bottles containing liquid and solid materials such as washing agents, shower gels, sun protection creams and oils, solvents, dye concentrates, benzene vapor, sugar and the like.

ADVANTAGE - The valve structure is simple and inexpensive, where the cross- or star-shaped slits are shaped during molding or vulcanizing.

DESCRIPTION OF DRAWING(S) - The drawing shows a closed rosette valve fitted to a bottle.

Bottle (1)
Valve tube (4)
Clamping collar (5)
Star ribs (6)
Rosette (8)
pp; 17 DwgNo 14/18

Derwent Class: A92; Q32; Q33
International Patent Class (Main): **B65D-047/20**
International Patent Class (Additional): B65D-035/46; **B65D-053/00**

21/7/4 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2003 Thomson Derwent. All rts. reserv.
011227216 **Image available**
WPI Acc No: 1997-205119/199719
Plastics ventilation valve for liquid vessel - has cap shaped membrane held against hub by flow cover for opening and closing valve, protected by guard formed by cover and flow disc
Patent Assignee: PROTECHNA SA (PROT-N)
Inventor: SCHUTZ U; SCHUETZ U
Number of Countries: 032 Number of Patents: 015
Patent Family:
Patent No Kind Date Applicat No Kind Date Week
DE 29702772 U1 19970403 DE 97U2002772 U 19970217 199719 B
EP 858955 A1 19980819 EP 98102153 A 19980207 199837
NO 9800646 A 19980818 NO 98646 A 19980216 199843
AU 9854660 A 19980820 AU 9854660 A 19980217 199845
CN 1197029 A 19981028 CN 98107075 A 19980217 199911
JP 11001261 A 19990106 JP 9834964 A 19980217 199911

US 5908129	A	19990601	US 9824303	A	19980217	199929
EP 858955	B1	19990728	EP 98102153	A	19980207	199934
DE 59800017	G	19990902	DE 500017	A	19980207	199942
			EP 98102153	A	19980207	
ES 2134677	T3	19991001	EP 98102153	A	19980207	199948
BR 9800636	A	19990914	BR 98636	A	19980217	200004
MX 9801265	A1	19990101	MX 981265	A	19980216	200051
AU 735976	B	20010719	AU 9854660	A	19980217	200148
RU 2176975	C2	20011220	RU 98102388	A	19980130	200210
NO 313322	B1	20020916	NO 98646	A	19980216	200274

Priority Applications (No Type Date): DE 97U2002772 U 19970217

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 29702772	U1		13	B65D-051/16	
EP 858955	A1	G		B65D-051/16	
Designated States (Regional): AL AT BE CH DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
NO 9800646	A			B65D-051/16	
AU 9854660	A			F16K-024/06	
CN 1197029	A			B65D-051/16	
JP 11001261	A		5	B65D-051/16	
US 5908129	A			B65D-051/16	
EP 858955	B1	G		B65D-051/16	
Designated States (Regional): DE DK ES FI FR GB IT SE					
DE 59800017	G			B65D-051/16	Based on patent EP 858955
ES 2134677	T3			B65D-051/16	Based on patent EP 858955
BR 9800636	A			B65D-051/16	
MX 9801265	A1			B65D-047/20	
AU 735976	B			B65D-051/16	Previous Publ. patent AU 9854660
RU 2176975	C2			B65D-051/00	
NO 313322	B1			B65D-051/16	Previous Publ. patent NO 9800646

Abstract (Basic): DE 29702772 U

The valve (1) has a case comprising a threaded stopper screwed into a hole in a screw-on lid or screw-in stopper used for sealing hole for filling, emptying or airing vessel. It is opened and closed by a cap-shaped membrane protected by guard. The case contains a central hub (10) supported by ribs (11) extending outwards from hub in star shape to ring epaulette (12). Air passage holes are formed between the ribs, and these can be closed using a springy membrane that can be moved out from hub to ledge. The membrane has a cap-shaped hole facing an epaulette, and when the membrane is closed it lies with its circular edge under tension against a valve seat formed by the inner side of epaulette.

A flow cover is pressed onto the inner end of the hub, and its outer edge combines with the inner end of the case to form a slot through which air can flow into the vessel when the valve is open, as well as being used to secure membrane onto hub. A flow disc lies inside the case coaxially between the membrane and cover, and this disc contains one or more air passage holes. The cover and disc have a labyrinth membrane against liquid flowing into the valve. The outer edge (42) of the case next to the epaulette contains an integrally moulded clampable sealing cap. Holes (44) for air flowing through the valve into the vessel when the membrane is open are formed between holding teeth (43) and a sealing cap extending over them.

USE/ADVANTAGE - For tanks, barrels or pallet containers. Liquid cannot escape during vessel transportation due to the suction effect of

the liquid entering the valve case opening the valve membrane. The valve is also resistant to more than 1 bar vessel pressure and more resistant to fatigue.

Dwg.2/2

Derwent Class: Q33; Q34; Q66
International Patent Class (Main): **B65D-047/20 ; B65D-051/00 ;** B65D-051/16; F16K-024/06
International Patent Class (Additional): B65D-090/32; F16K-017/19; F16K-024/02; F16K-027/02

21/7/5 (Item 5 from file: 350)

DIALOG(R)File 350:Derwent WPIX

011216772 **Image available**
WPI Acc No: 1997-194697/199718

Resealable container partic. vial holding solid drug has membrane over neck finish to seal closure tubular central orifice - membrane has openings outside sealing area and can be pressed down to open by inserting fluid delivery device into orifice

Patent Assignee: BECTON DICKINSON CO (BECT); BECTON DICKINSON & CO (BECT); BECTON DICKINSON FRANCE (BECT)
Inventor: GRIMARD J; GRIMARD J P
Number of Countries: 011 Number of Patents: 008
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 765653	A1	19970402	EP 96114816	A	19960916	199718	B
JP 9104460	A	19970422	JP 96256969	A	19960927	199726	
CA 2185493	A	19970328	CA 2185493	A	19960913	199734	
US 5702019	A	19971230	US 95534754	A	19950927	199807	
MX 9604178	A1	19970301	MX 964178	A	19960919	199820	
EP 765653	B1	20020227	EP 96114816	A	19960916	200215	
DE 69619450	E	20020404	DE 619450	A	19960916	200230	
			EP 96114816	A	19960916		
ES 2169780	T3	20020716	EP 96114816	A	19960916	200256	

Priority Applications (No Type Date): US 95534754 A 19950927
Cited Patents: US 5358501; WO 9503841
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 765653	A1	E	22	A61J-001/00	
Designated States (Regional): BE DE ES FR GB IT SE					
JP 9104460	A		11	B65D-051/18	
CA 2185493	A			B65D-047/20	
US 5702019	A		22	A61M-037/00	
MX 9604178	A1			B65D-051/00	
EP 765653	B1	E		A61J-001/00	
Designated States (Regional): BE DE ES FR GB IT SE					
DE 69619450	E			A61J-001/00	Based on patent EP 765653
ES 2169780	T3			A61J-001/00	Based on patent EP 765653

Abstract (Basic): EP 765653 A

A resealable container assembly accessible by a medical delivery device has a closure (20) with a central tubular connector (32) over a membrane (46) on the container open top. The membrane seals against the connector periphery and has one or more openings (44) outside the sealing area (55) so that insertion of a device (62) into the connector displaces the membrane from sealing position to open communication with the container interior. The membrane is pref. elastomeric and has fluid

flow channels (45) in the central area, and the connector is a luer connector hub and has a downward peripheral rib (30) to seal against the membrane. The closure is pref. crimped to the container annular rim.

USE - Partic. for a vial holding powdered or freeze-dried drug.

ADVANTAGE - Permits repeated access without loss of sterility, and does not require the membrane to be pierced or pushed into the vial.

Dwg.4/13

Abstract (Equivalent): US 5702019 A

A resealable container assembly accessible by a medical delivery device has a closure (20) with a central tubular connector (32) over a membrane (46) on the container open top. The membrane seals against the connector periphery and has one or more openings (44) outside the sealing area (55) so that insertion of a device (62) into the connector displaces the membrane from sealing position to open communication with the container interior. The membrane is pref. elastomeric and has fluid flow channels (45) in the central area, and the connector is a luer connector hub and has a downward peripheral rib (30) to seal against the membrane. The closure is pref. crimped to the container annular rim.

USE - Partic. for a vial holding powdered or freeze-dried drug.

ADVANTAGE - Permits repeated access without loss of sterility, and does not require the membrane to be pierced or pushed into the vial.

Dwg.3/13

Derwent Class: B07; P33; P34; Q33

International Patent Class (Main): A61J-001/00; A61M-037/00; **B65D-047/20** ; **B65D-051/00** ; B65D-051/18

International Patent Class (Additional): B65D-041/50; B65D-045/30

21/7/18 (Item 18 from file: 350)

DIALOG(R)File 350:Derwent WPIX

001917544

WPI Acc No: 1978-E6795A/197824

Portable fluid container - has conical lid with central aperture and movable shaft with sealing conical receptacles

Patent Assignee: BRITISH STEEL CORP (BRIF)

Inventor: WARWICK R J

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
GB 1514357	A	19780614				197824 B

Priority Applications (No Type Date): GB 768051 A 19760301

Abstract (Basic): GB 1514357 A

The portable fluid container has a base (3), sides (1) and a lid (2) having a conical or other cu-shaped centrally apertured depression. A central shaft (9) extends through the aperture and has a first conical or other cup-shaped receptacle (12) secured at its lower end, and a second conical or other cup-shaped receptacle (13) at its upper end.

In a lowered position of the shaft the second receptacle has lies secured in sealing contact with the upper side of the lid over the aperture, and in a raised position the first receptacle lies secured in sealing contact with the under side of the lid over the aperture.

Derwent Class: Q33

International Patent Class (Additional): **B65D-047/20** ; **B65D-051/00**

File 348:EUROPEAN PATENTS 1978-2003/Apr W01
File 349:PCT FULLTEXT 1979-2002/UB=20030410,UT=20030403

Set	Items	Description
S1	448021	CLOSURE? ? OR COVER????
S2	1213941	CONTAINER? ? OR CAN OR CANS
S3	123352	ELASTIC?
S4	332422	BAND? ? OR STRIP OR STRIPS
S5	439461	CONTRACT??? OR CONSTRICT???? OR DEFORM?
S6	1043212	OPENING? ? OR END? ?
S7	367	IC=B65D-047/20
S8	419	IC=B65D-051/00 OR IC=B65D-053/00
S9	**1**	**S7 AND S8**
S10	337	(S1 OR S6)(3N)S2(S)(S3 OR S5)(5N)S4
S11	0	S8 AND S10
S12	0	S7 AND S10
S13	27193	S1/DE,TI OR S6/DE,TI
S14	73	S10 AND S13
S15	**30**	**S10/AB**
S16	175	ZERO()GRAVITY
S17	**1**	**S8 AND S16**
S18	1	(S1 OR S6)(3N)S2(S)S16
S19	**1**	**S18 NOT S17**
S20	0	(S1 OR S6)(10N)(S3 OR S5)(3N)S4 AND S16
S21	9094	(S1 OR S6)(S)(S3 OR S5)(S)S4
S22	1	S16 AND S21
S23	**1**	**S22 NOT S17:S18**

9/3,AB/1 (Item 1 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS
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00080014

Flexible membrane container closure.
Mit biegsamer Membrane versehener Behalterverschluss.
Dispositif de fermeture pour recipient comportant une membrane flexible.

PATENT ASSIGNEE:
Banker, Harold, jr., 4 Forrest Drive, Turnersville New Jersey 08012, (US)
, (applicant designated states: AT;BE;CH;DE;FR;GB;IT;LI;LU;NL;SE)
INVENTOR:
Banker, Harold, jr., 4 Forrest Drive, Turnersville New Jersey 08012, (US)
LEGAL REPRESENTATIVE:
Russell-Rayner, Albert Patrick , 61 Pasture Road, Letchworth
Hertfordshire, SG6 3LS, (GB)
PATENT (CC, No, Kind, Date): EP 87533 A2 830907 (Basic)
EP 87533 A3 840502
APPLICATION (CC, No, Date): EP 82305662 821025;
PRIORITY (CC, No, Date): US 314571 811026
DESIGNATED STATES: AT; BE; CH; DE; FR; GB; IT; LI; LU; NL; SE
INTERNATIONAL PATENT CLASS: **B65D-047/20 ; B65D-051/00**
ABSTRACT EP 87533 A2

Flexible membrane container closure.

A container closure comprising a cylindrically shaped, resilient, distortable membrane (2) having a first terminal end fully affixed to the periphery of a first closure body (7) providing a discharge aperture (4) of predetermined size and a second terminal end fully affixed to a second coacting closure body (8) coaxially disposed about the outside periphery of the first closure body (7) and adapted for relative bi-directional

rotation with respect to the first closure body (7). Relative counter-rotational movement of the membrane terminal ends in one direction causes closure and sealing of the annular throat inherently created and disposed within the membrane (2) while relative counter-rotational movement in a second direction causes the previously closed annular throat to open.
ABSTRACT WORD COUNT: 124
LANGUAGE (Publication,Procedural,Application): English; English; English

15/6/25 (Item 14 from file: 349)
00316106 **Image available**
LOOSE PROPHYLACTIC SACK DEVICE HAVING IMPROVED CLOSURE
Publication Year: 1995

15/6/26 (Item 15 from file: 349)
00280655 **Image available**
LOOSE PROPHYLACTIC SACK DEVICE HAVING IMPROVED CLOSURE
Publication Year: 1994

15/6/28 (Item 17 from file: 349)
00269910
SCREW-TOP CLOSURE WITH A TAMPER-EVIDENT STRIP
Publication Year: 1994

15/3,AB/6 (Item 6 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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00162948
Closure sealing.
Verschluss-Dichtung.
Joint de fermeture.
PATENT ASSIGNEE:
Rehau Plastiks AG + Co, Rheniumhaus Postfach 1460, D-8673 Rehau, (DE),
(applicant designated states: AT;BE;CH;FR;GB;IT;LI;LU;NL;SE)
INVENTOR:
PATENT (CC, No, Kind, Date): EP 165491 A2 851227 (Basic)
EP 165491 A3 861029
APPLICATION (CC, No, Date): EP 85106188 850521;
PRIORITY (CC, No, Date): DE 3419452 840524
DESIGNATED STATES: AT; BE; CH; FR; GB; IT; LI; LU; NL; SE
INTERNATIONAL PATENT CLASS: E06B-007/23; F24C-015/02;
ABSTRACT EP 165491 A2 (Translated)
The invention relates to a closure sealing which has an elongate, elastic sealing strip , this sealing strip completely or partially surrounding a polygonal closure aperture which can be closed by a closure part. Arranged in the region of the corners of the closure aperture are supporting elements in which the sealing strip is releasably held with mechanical prestress. Each supporting element has an arcuate holder for the sealing strip, which strip is constructed as a straight profile strand. The essential feature of the invention is that each supporting element (4) is constructed as a separate arcuate part. This arcuate part can be fixed, preferably hooked in, to the associated closure part (1) and can be stressed by the prestressed sealing strip (5) with this closure part (1).
TRANSLATED ABSTRACT WORD COUNT: 129
LANGUAGE (Publication,Procedural,Application): German; German; German

15/3,AB/7 (Item 7 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00145340
Combination of a tamper-evident closure and a container.
Kombination aus Originalitatsverschluss und Behalter.
Combinaison d' une fermeture de garantie et d' un recipient.
PATENT ASSIGNEE:
Fort Howard Cup Corporation, (881750), 1919 South Broadway, Green Bay Wisconsin 54304, (US), (applicant designated states: AT;BE;CH;DE;FR;GB;IT;LI;LU;NL;SE)
INVENTOR:
Winstead, Thomas W., 2 Overlook Lane, Baltimore Maryland 21210, (US)
LEGAL REPRESENTATIVE:
Lerwill, John et al (33011), A.A. Thornton & Co. Northumberland House 303-306 High Holborn, London, WC1V 7LE, (GB)
PATENT (CC, No, Kind, Date): EP 138592 A2 850424 (Basic)
EP 138592 A3 860813
EP 138592 B1 890412
APPLICATION (CC, No, Date): EP 84306990 841012;
PRIORITY (CC, No, Date): US 541469 831013
DESIGNATED STATES: AT; BE; CH; DE; FR; GB; IT; LI; LU; NL; SE
INTERNATIONAL PATENT CLASS: B65D-043/06;
ABSTRACT EP 138592 A2
Tamper-evident closure for a container .
A tamper-evident closure for a container comprises a center portion (12) for overlying an open portion of a container, a seal portion (28) and a circumferential line of weakness (18) surrounding the seal portion and defining a circumferential tear-strip and a tab to facilitate removal of the closure when the tear-strip has has been detached. At least the tear- strip comprises deformable material. The tear- strip comprises a portion (32) which creates a separation therein upon deformation when the closure is secured to a container.
ABSTRACT WORD COUNT: 90
LANGUAGE (Publication,Procedural,Application): English; English; English

15/3,AB/8 (Item 8 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00144003
Containers and container bodies.
Behalter und Behalterrumpf.
Boites et corps de boites.
PATENT ASSIGNEE:
STEELTIN CAN CORPORATION, (628340), 1101 Todds Lane, Baltimore Maryland 21237, (US), (applicant designated states: AT;BE;CH;DE;FR;GB;IT;LI;LU;NL;SE)
INVENTOR:
Kadunce, Leo, 135, Keystone Avenue, Morrisville Pennsylvania 19067, (US)
LEGAL REPRESENTATIVE:
Smart, Peter John et al , W.H. BECK, GREENER & CO 7 Stone Buildings Lincoln's Inn, London WC2A 3SZ, (GB)
PATENT (CC, No, Kind, Date): EP 171476 A1 860219 (Basic)
APPLICATION (CC, No, Date): EP 84305630 840817;
PRIORITY (CC, No, Date): EP 84305630 840817

DESIGNATED STATES: AT; BE; CH; DE; FR; GB; IT; LI; LU; NL; SE
INTERNATIONAL PATENT CLASS: B65D-003/30;
ABSTRACT EP 171476 A1
Containers and container bodies.
A container is formed providing a composite wall (14) with reinforcing strips (16) which surround the exterior of the wall at its opposite ends. The container is capped by end closures (24) the edges of which engage the reinforcing strips to deform the strips to both overlap the closure edges and compress the container wall between the strips and the closures.
ABSTRACT WORD COUNT: 67
LANGUAGE (Publication,Procedural,Application): English; English; English

15/3,AB/23 (Item 12 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00352033
CONTAINER FOR FREE-FLOWING PRODUCT
RECIPIENT POUR PRODUITS COULANTS
Patent Applicant/Assignee:
HENKEL KOMMANDITGESELLSCHAFT AUF AKTIEN,
DE BRUIN Marco,
BROUWER Mark,
Inventor(s):
DE BRUIN Marco,
BROUWER Mark,
Patent and Priority Information (Country, Number, Date):
Patent: WO 9634546 A1 19961107
Application: WO 96EP1785 19960429 (PCT/WO EP9601785)
Priority Application: DE 19516764 19950506
Designated States: AU BG BR BY CA CN CZ FI GE HU IS JP KG KP KR KZ LK LT LV MD MX NO NZ PL RO RU SG SI SK TJ TM TR UA US UZ VN AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE
Publication Language: German
English Abstract
A container for a free-flowing product, in particular a correcting fluid, has an opening provided with a removable closure cap with an integrated brush-shaped applicator. A sleeve-shaped stripper is set in the opening and has stripping strips whose ends are elastically supported against each other and at least partially close the open cross section of the stripper. The object of the invention is to improve the container so that the product may be perfectly dosed from the container even over a long time and losses of the volatile fraction of the product in the container may be largely avoided when opening the container and removing product therefrom. For that purpose, the brush-shaped applicator (10, 10a) is provided in the area of its stem with a continuous notch (13, 13a) in which the free ends of the stripping strips (8, 8a) are engaged when the closure cap (9, 9a) is set on the container.

15/3,AB/27 (Item 16 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00269911
CONTAINER CLOSURE DEVICE
DISPOSITIF DE BOUCHAGE POUR RECIPIENT
Patent Applicant/Assignee:
LE MOULAGE AUTOMATIQUE,

Inventor(s):
CARVALHEIRO Jose,
FRANCHET Alain,
GUERRAZZI Vincent,
PELLERANO Pierre,

Patent and Priority Information (Country, Number, Date):
Patent: WO 9418085 A1 19940818
Application: WO 94FR145 19940209 (PCT/WO FR9400145)
Priority Application: FR 931410 19930209; FR 937012 19930610
Designated States: AT AU BB BG BR BY CH CN CZ DE DK ES FI GB GE HU JP KP KR KZ LK LU LV MG MN MW NL NO NZ PL PT RO RU SD SE SK UA UZ VN AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG
Publication Language: English
Fulltext Word Count: 2982

English Abstract
A closure device for a container with a threaded neck (G), including a threaded cap (1) with its lower portion connected to a tamper-proof strip (2) via a frangible portion (12), said strip (2) having a resiliently deformable inner ring-shaped rib (20) which snaps onto a fastening flange (C) around the lower circumference of the neck when the cap (1) is tightly screwed on (V), as well as an outer peripheral projection (21) separated from said rib by a controllable resiliently deformable portion (22). The upper surface of the projection (21) and the lower edge of the side wall of the cap (1) comprise at least one tooth (23) and/or at least one recess (13), said tooth being releasably engageable in said recess (13) when the cap is screwed on (V) and the rib (20) abuts the fastening flange (C) so that any relative movement of the cap (1) and strip (2) is prevented and the force required to snap on the cap is transferred without damaging said frangible portion (12).